1-1-2013

Electronic discharge summary driving advice: current practice and future directions

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Abstract

Background Driving is a complex task. Many older drivers are unaware of their obligation to inform authorities of conditions which may impact upon their driving safety. Aims This study sought to establish the adequacy of driving advice in electronic discharge summaries from an Australian stroke unit. Method One month of in-patient electronic discharge summaries were reviewed. A predetermined list of items was used to assess each electronic discharge summary: age; gender; diagnosis; relevant co-morbidities; deficit at time of discharge; driving advice; length of stay; and discharge destination. Results Of 41 participants, the mean age was 72 years. Twenty patients had a discharge diagnosis of stroke, nine of transient ischaemic attack, four of seizure and one of encephalitis. Of these, only eight discharge summaries included driving advice. Conclusion The documentation of driving advice in electronic discharge summaries is poor. This has important public health, ethical and medico-legal implications. Avenues for future research are explored.

Keywords

practice, future, current, directions, advice, electronic, driving, summary, discharge

Disciplines

Medicine and Health Sciences | Social and Behavioral Sciences

Publication Details

Carmody, J., Carey, M., Traynor, V. & Iverson, D. (2013). Electronic discharge summary driving advice: current practice and future directions. Australasian Medical Journal, 6 (8), 419-424.

Electronic discharge summary driving advice: Current practice and future directions

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BRIEF REPORT

Please cite this paper as: Carmody J, Carey M, Traynor V, Iverson D. Electronic discharge summary driving advice: Current practice and future directions. AMJ 2013, 6, 8, 419-424. http//dx.doi.org/10.4066/AMJ.2013.1815

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Abstract

Background
Driving is a complex task. Many older drivers are unaware of their obligation to inform authorities of conditions which may impact upon their driving safety.

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Conclusion
The documentation of driving advice in electronic discharge summaries is poor. This has important public health, ethical and medico-legal implications. Avenues for future research are explored.

Key Words
Aged; automobile driving; patient discharge; seizure; stroke

What this study adds:

1. A large proportion of individuals over the age of 65 hold a class C licence.
2. Current documentation of driving advice in discharge summaries is poor.
3. A discharge summary driving advice checkbox may serve as a useful aide-mémoire for both junior and senior doctors.

Introduction

Contemporary hospital medical practice is increasingly reliant upon technological advances. The advent of electronic medical record systems has facilitated widespread use of electronic discharge summaries. Consequently, many hospitals no longer rely on handwritten discharge summaries. Instead, many patients and/or general practitioners are provided with a printed electronic discharge summary. The advantages of this approach may include: (1) improved legibility;[1] (2) safer transition to primary care; (3) greater general practitioner satisfaction;[1] and (4) expedited data retrieval should a patient be readmitted. The primary aim of this paper is to present the results of an exploratory study of the documentation of driving advice in electronic discharge summaries. A secondary aim is to propose a measure that may help close an important gap in hospital discharge processes: the frequent omission of driving advice from discharge summaries.

A wide range of health problems impact upon one's ability to drive safely;[2,3] for example, there is evidence that stroke survivors have a slight to moderate increase in crash risk.[3] Of concern is that drivers are often unaware of their legal

obligation to inform driver licensing authorities of relevant changes to their health (e.g., stroke, seizure, dementia).[4,5]

The Austroads national guidelines stipulate a non-driving period of two weeks after a transient ischaemic attack (TIA), a minimum of four weeks after stroke, and one month to two years after a seizure.[4] Patients expect clinicians to advise them of applicable driving restrictions[6] during the course of a hospital admission. Yet, there is evidence that a large proportion of patients are not counselled regarding driving safety.[7-13] A review of driving studies found several clinician-related factors were responsible for inadequate counselling: apathy; lack of knowledge; poor verbal communication skills; and incomplete discharge summaries.[9-15]

In a position paper addressing discharge planning, the Australian and New Zealand Society for Geriatric Medicine described the transfer of information between hospitals and general practitioners as an important aspect of patient care.[16] Unfortunately, communication and information transfer at hospital discharge is often deficient.[17,18] Standardised electronic discharge summaries may improve the transfer of relevant information to general practitioners.[17] There is evidence that electronic discharge summaries improve the quality and timeliness of discharge summaries and enhance communication between inpatient and outpatient health care services.[1]

Individuals who have sustained an acute stroke or TIA require advice regarding the resumption of driving. Thus, a busy tertiary hospital stroke unit was deemed an appropriate service to sample. The present study is, to our knowledge, the first to assess the inclusion of driving advice in Australian discharge summaries.

Methods

Design

This quantitative study involved a retrospective audit of driving advice provided by junior hospital doctors as noted in inpatient electronic discharge summaries.

Setting

This study was undertaken in the stroke unit of a 550-bed university-affiliated teaching hospital in regional New South Wales, Australia. The hospital serves a large catchment area with a population of 275,983 people, 28% of whom are older than 55 years.[19] Annually there are a total of 540 inpatient admissions to the stroke unit.

Sample

The sample comprised electronic discharge summaries created by junior hospital doctors during one month, August 2012, for patients who were discharged from the stroke unit.

Data collection

In September 2012, all data was retrieved from an electronic medical records database. Electronic discharge summaries were examined using a datasheet developed by two of the authors (JC and MC). The datasheet consisted of nine items: age; gender; diagnosis; inpatient complications; relevant co-morbidities; deficit at time of discharge; driving advice; length of stay; and discharge destination. Data was recorded in a confidential and de-identified manner. Descriptive statistics were applied in view of the sample size.

Results

A total of 41 electronic discharge summaries were created during the month selected (i.e. 100% of stroke unit electronic discharge summaries). As three of the patients died during hospitalisation, a total of 38 electronic discharge summaries were used for analysis.

Demographic profile of patients

The initial sample (n=41) consisted of electronic discharge summaries for 20 males and 21 females with an age range of 25 to 97 years (mean 72.1 years). At the point of discharge, a final diagnosis of stroke was recorded for 20 patients, TIA for nine patients, and seizure for four patients (n=29). Three patients received a combined diagnosis (e.g., stroke and seizure). Other diagnoses included undetermined (n=3), migraine (n=2), cerebral hypoperfusion, meningioma, peripheral vertigo, Bell's palsy, hypertensive crisis, delirium and viral encephalitis.

Patient length-of-stay ranged from 0.9 to 63.8 days (mean 10.5 days, median 6.6 days); 19 individuals had clinically returned to normal by the time of discharge. However, a further 19 had residual neurological deficit when discharged. Discharge destination was identified as home (n=24), rehabilitation unit (n=11), died (n=3), other hospital (n=2), or unknown (n=1).

All summaries were assessed to establish the existence of co-morbidities relevant to driving safety: dementia (n=1) and epilepsy (n=3) were identified in four patients. In addition, each electronic discharge summary was screened to identify inpatient complications relevant to driving safety (e.g. myocardial infarction, ventricular tachycardia). This

yielded four events in three patients: major surgery; seizure; TIA; and pulmonary embolism.

Driving advice provided

Driving advice was recorded in only eight (21.1%) electronic discharge summaries. No driving advice was found in the remaining 30 summaries (78.9%). Patients who experienced major complications and patients discharged to rehabilitation did not have driving advice recorded in their electronic discharge summaries.

Twenty-five patients were discharged from the hospital with a diagnosis of stroke or TIA; seven (28%) had driving advice recorded in their discharge summary. One patient with viral encephalitis was provided with written driving advice. Patient discharge diagnosis by driving advice is displayed in Figure 1. One-third of patients discharged home (n=8) had driving advice recorded in their discharge summaries. Driving advice by discharge destination is displayed in Figure 2.

Discussion

The key finding of this study is that driving advice is frequently omitted from in-patient hospital electronic discharge summaries for individuals who have sustained a stroke or TIA. Specifically, 72% (18/25) of patients with a diagnosis of stroke or TIA did not receive written advice regarding driving restrictions. Of concern is that none of the four individuals who presented with seizure had driving advice recorded in their discharge summaries. An unexpected finding was that patients who developed major complications during hospitalisation, or were discharged to a rehabilitation service, were not provided with written driving advice. These findings highlight an important discrepancy between national driving guidelines[4] and local clinical practice.

Fisk et al. reported that 48% of "active pre-stroke drivers" did not receive driving advice from any source after their stroke.[8] A retrospective review of the medical records of patients who had sustained a TIA or stroke, were deficit-free and discharged directly home found that driving advice was not recorded (n=30).[10] A review of the medical records of 118 Scottish patients admitted with psychosis established that only 5.1% (n=6) of discharge summaries contained driving advice.[11] The authors suggested that the introduction of a standardised discharge summary with relevant "prompts" would ensure patients receive appropriate driving advice. Shareef et al. proposed that patients discharged from an emergency department with a diagnosis of seizure, syncope or altered level of consciousness should receive written driving advice.[12] The authors recommended that a checkbox be added to electronic discharge summaries to encourage the inclusion of appropriate written advice.

Poor documentation of driving status and/or driving advice in discharge summaries may be multi-factorial in origin. Firstly, junior hospital doctors often write numerous discharge summaries daily whilst simultaneously requesting consults, answering pages, and writing orders. Second, senior clinicians may not raise the issue of driving safety during ward rounds. Third, electronic discharge summaries may not incorporate a driving advice prompt. Thus, it would appear that there is no agreed approach for busy, multi-tasking, junior doctors regarding the inclusion of driving advice in discharge summaries. Greysen et al. argued that targeted interventions are needed to improve existing discharge care practices in teaching hospitals.[20]

A strength of the present study is the sampling of a patient group in need of explicit driving advice. An additional strength relates to the use of a pragmatic retrospective design. A prospective study could introduce observer bias if an investigator were a member of the unit under study.[21] A limitation of the current study was the inability to determine pre-admission driving status or prior discussions with doctors regarding driving restrictions. However, given that 63.5% of NSW residents aged 65 and over hold a class C licence,[22,23] one would anticipate that approximately 26 of the 41 study participants were licence holders. This limitation could have been overcome by contacting patients post-discharge, but ethical approval was not sought to do so. Given the exploratory nature of this study, a small sample size was drawn from a single centre. In spite of this limitation, it is hoped that the findings will prompt discussion amongst clinicians thereby facilitating review of existing discharge practices in other hospitals and possibly the conduct of larger studies examining this issue.

The electronic discharge summaries selected for analysis in this study were completed by post-graduate year two (PGY-2) doctors; in reality, most hospital discharge summaries are compiled by PGY-1 or PGY-2 doctors. Although this task affords junior doctors valuable experience, a crucial component of ongoing medical care is allocated to the least experienced member of often large, multi-disciplinary clinical teams.[18] Perhaps not surprisingly, the use of template-based discharge summaries has been shown to be more satisfactory than narrative summaries.[11,18] In view of the findings of the present study and a review of the available literature, the authors propose that a simple driving advice checkbox template (see Figure 3) be included in all electronic discharge summaries.

Conclusion

Stroke survivors are frequently keen to resume driving.[24] However, in this study, we have shown that driving advice is omitted from the majority of electronic discharge summaries. This has important medical, ethical, and societal implications.[6] Moreover, it highlights a striking gap in current clinical practice. The simple measure we have proposed, if adopted widely, could reduce the risk of unfit patients resuming driving,[3] improve continuity of care, and enhance communication between healthcare providers. Future research could evaluate the impact of such a template upon: (1) patients; (2) general practitioners; and (3) hospital staff (e.g., doctors, nurses, occupational therapists).

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ACKNOWLEDGEMENTS

The lead author is a doctoral student at the University of Wollongong and this project will contribute to his thesis.

PEER REVIEW

Not commissioned. Externally peer reviewed.

CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

ETHICS COMMITTEE APPROVAL

This study was approved by the local human research ethics committee (HE 12/327) and hospital research governance directorate.

Figure 1: Driving advice by diagnosis as recorded in 38 electronic discharge summaries

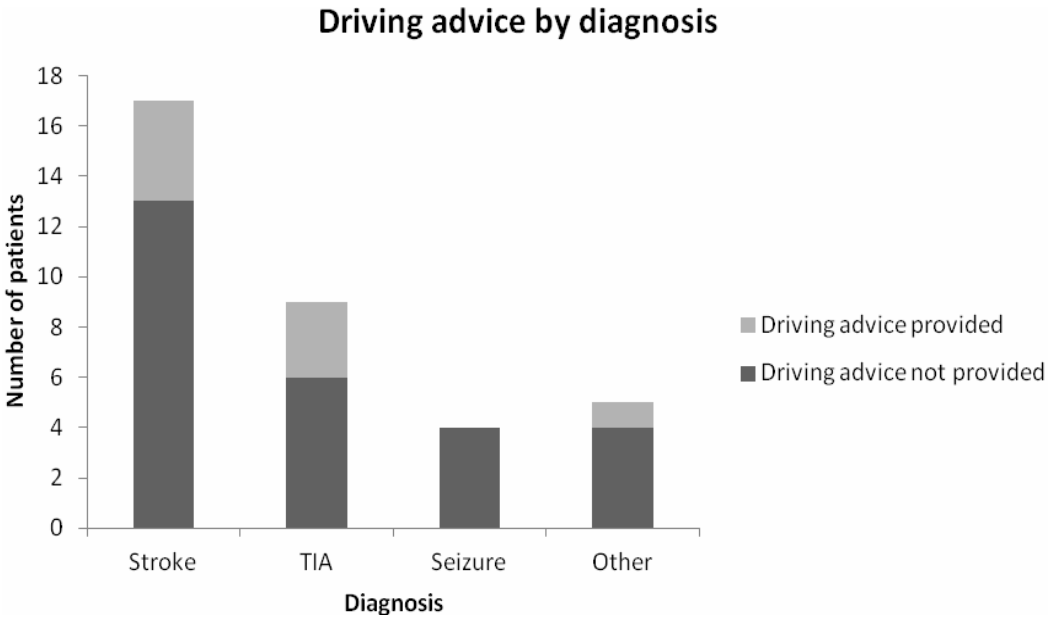

Figure 2: Driving advice by discharge destination as recorded in 38 electronic discharge summaries

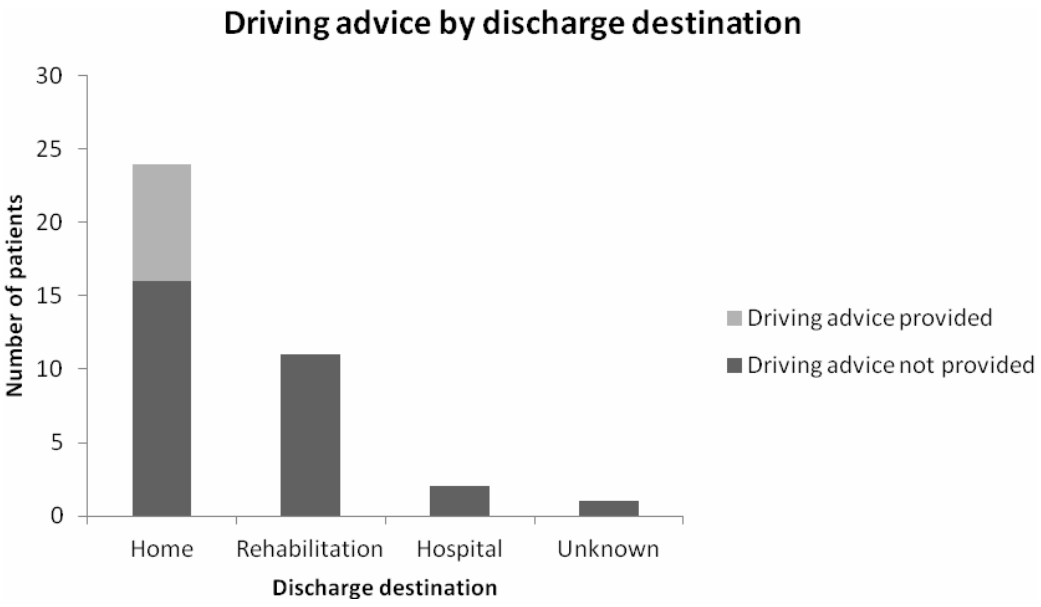

Figure 3: Proposed electronic discharge summary driving advice check-box template

Driving Advice

Fit to drive ☐
Not fit to drive ☐
Other (see text) ☐
May resume driving in ☐ weeks/months